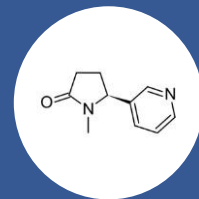


SALIVARY COTININE QUICK START GUIDE



BIOLOGICAL CONSIDERATIONS

The principle metabolite of nicotine is cotinine. Cotinine diffuses easily from blood into saliva, and salivary cotinine and blood levels are highly correlated. Salivary cotinine has a longer half-life than nicotine, and the literature has documented it to be a specific and sensitive marker for determining exposure to tobacco and nicotine, allowing for primary and second-hand exposure determination. Salivary cotinine has been studied to index nicotine exposure through tobacco smoke through smoking, passive exposure to smoking, and by absorbing nicotine through contact with surfaces on which tobacco smoke has settled.

Biological Representation	Systemic distribution
Aliases:	Nicotine exposure, metabolite of nicotine

SAMPLE TIMING AND DESIGN

Researchers are studying salivary cotinine in a multitude of different fields including smoking cessation, environmental, public health, and policies. Cotinine is a preferred biomarker to evaluate tobacco use because it maintains a half-life of up to 16-hours, as opposed to nicotine's half-life of just several hours. Cotinine can also be used to assess second-hand smoke exposure in children. Salimetrics Cotinine assay's high sensitivity distinguishes between active smokers, non-smokers, and recent second-hand smoke exposure. Autonomic nervous system activity may be altered in individuals who are exposed to tobacco smoke, which can make cortisol and alpha-amylase an exploratory biomarker to consider when studying cotinine and smoking. A few considerations to note when studying salivary cotinine is the type of nicotine consumables including e-cigarettes, nicotine water, and nicotine gum.

FREQUENTLY STUDIED WITH

Alpha – Amylase, Cortisol, Oxytocin, Testosterone

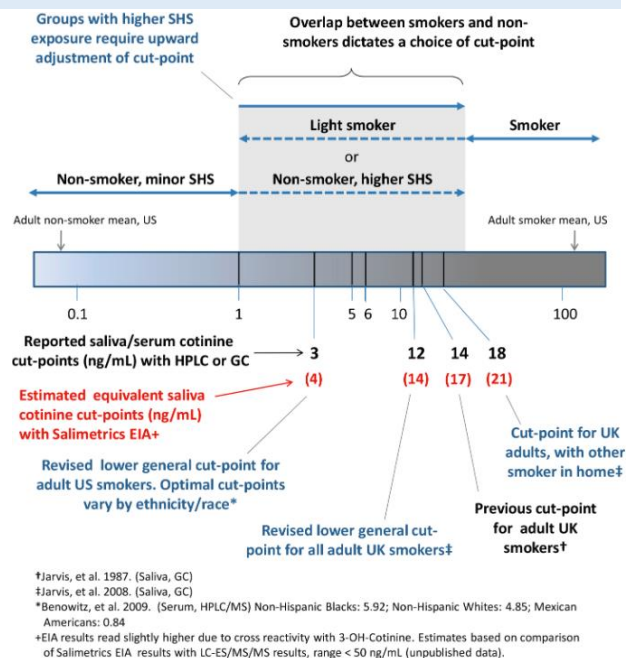
TECHNICAL SUMMARY

Sample Collection Methods & Volumes	
Passive Drool	✓
SalivaBio Swabs	✓
Optimum Collection Volume	75 µL*

*Add 300 µL to the total collection volume for all analytes of interest.

EXAMPLE DATA

Discriminating Smokers from Non-Smokers. A recommended guideline for interpreting salivary cotinine results using Salimetrics cotinine EIA Kit.



KEY RESOURCES

- Benowitz, N.L. (1996). Cotinine as a biomarker of environmental tobacco smoke exposure. *Epidemiol Rev*, 18(2), 188-204.
- Van Vunakis, H., Tashkin, D.P., Rigas, B., et al. (1989). Relative sensitivity and specificity of salivary and serum cotinine in identifying tobacco-smoking status of self-reported non-smokers and smokers of tobacco and/or marijuana. *Arch Environ Health*, 44(1), 53-58
- Gatzke-Kopp, L. M., Willoughby, M. T., et al., (2019). Magnitude and Chronicity of Environmental Smoke Exposure Across Infancy and Early Childhood in a Sample of Low-Income Children. *Nicotine & tobacco research : Nicotine Tob Res*, 21(12), 1665-1672.
- Granger, D. A., Blair, C., et al., (2007). Individual differences in salivary cortisol and alpha-amylase in mothers and their infants: relation to tobacco smoke exposure. *Dev psychobiol*, 49(7), 692-701.
- Granger, DA, Taylor, MK. (2020). *Salivary Bioscience: Foundations of Interdisciplinary Saliva Research and Applications*. Springer. <https://springer.com/book/10.1007/978-3-030-35784-9>

